REMARKS

Case No.: 58488US004

Claims 1-4 and 6 are pending. Claims 1 and 6 are currently amended. The amendments for claims 1 and 6 find support in, for example, p. 2, line 17 – p. 3, line 3; p. 5, line 22 – p. 6, line 2; and p. 8, lines 7-8. Reconsideration of the application as amended is respectfully requested.

Section 103 Rejections

Claims 1-4 and 6 are rejected under 35 USC § 103(a) as having been obvious over O'Brien et al. (US 6,915178) in view of Duret et al. (US 4,663,720).

The Applicants respectfully disagree and contend that the references cited by the Examiner do not disclose all of the elements of independent claims 1 and 6. For example, both claims 1 and 6 recite, "generating control data from said input data, said control data representing a control surface which meets the stability requirements" and "the displayed control surface provides a visual representation of the minimum required thickness."

The Examiner cites O'Brien for the control data; however, neither the data discussed by O'Brien nor by Duret teaches or suggests the type of data recited in claims 1 and 6 and described in the present application. The data described in Duret, col. 6, lines 35-38, refers to the data used to run the milling machine, in particular, the instructions describing the movements of the machine tool to generate the desired shape. The data described in O'Brien is collected from the model of a patient's dentition or is representative of a dental prosthesis based on that data (col. 3, line 66 to col. 4, line 1). However, neither Duret nor O'Brien teach or suggest "control data representing a control surface...provid[ing] a visual representation of the minimum required thickness." The minimum required thickness and its visual representation ensure that the prosthesis walls are thick enough to be capable of withstanding the loads from milling work, when the prosthesis is being created, and chewing, after the prosthesis is mounted to the tooth stump (p. 2, line 17 – p. 3, line 3).

Further, neither of the cited references discloses "providing stability requirements" as recited by claims 1 and 6. The Examiner suggests that O'Brien and Duret disclose stability requirements by creating "the 3D data file...to specifically correspond to the surfaces...so as to ensure stability" and by showing a "modified image of a dental prosthesis with its corresponding plane" (Office Action, Para. 6.1). However, the stability requirements as recited in claims 1 and

Application No.: 10/550993 Case No.: 58488US004

6 "include a minimum required thickness of the prosthesis." Neither reference discloses or teaches this particular stability requirement as recited in the present application.

Further, neither O'Brien nor Duret teach or suggest "displaying the shape of the prosthesis together with the control surface on a monitor," as recited by claims 1 and 6. Even though O'Brien discusses displaying a dental prosthesis which can be modified by the user through conventional input devices (col. 4, lines 22-29) it does not disclose "displaying the shape of the prosthesis together with the control surface on a monitor," where the "displayed control surface provides a visual representation of the minimum require thickness." As discussed in the response to the Office Action dated May 13, 2008, displaying together both the recited control surface, which "provides a visual representation of the minimum required thickness," and the shape of the prosthesis provides significant advantages over the prior art cited by the Examiner. The user of the claimed invention can visually compare any modifications made to the shape of the prosthesis with the control surface to determine whether the modified prosthesis will meet stability requirements. For at least the reasons discussed above, the Applicants respectfully contend that claims 1 and 6 are nonobvious.

Claims 2-4 each add additional features to claim 1. Claims 2-4 are patentable for at least the reasons given above for their base claim 1.

In view of the above, it is submitted that the application is in condition for allowance. Examination and reconsideration of the application as amended is requested.

Respectfully submitted,

By:____/Lance Vietzke/ May 28, 2009 Lance L. Vietzke, Reg. No.: 36,708 Date

Telephone No.: 651-737-2180

Office of Intellectual Property Counsel 3M Innovative Properties Company

Facsimile No.: 651-736-3833